

# The U.S. Army Simulation, Training and Instrumentation Command Transition to a Digital Operating Environment Plan



June 30, 1999

Version 3.2

# Prologue

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## EC IN STRIDE

The U.S. Army Simulation, Training and Instrumentation Command (STRICOM) is implementing an integrated digital environment (IDE) as part of its overarching initiative to move to electronic business/electronic commerce (EB/EC).<sup>1</sup> STRICOM is pursuing EC because global competitive pressure is driving the world business community to transact business electronically. The need to get products to market quickly and to use enterprise resources effectively is dictating this rapid move to EC. The federal government and the Department of Defense (DoD) recognize these changes and have adopted policies that will move acquisition and procurement processes to be essentially paperless in the early 2000s.

At the same time, the mission of STRICOM and its acquisition project offices is straightforward: Get appropriate military capabilities into the warfighters' hands when they need them. Of equal importance is that these capabilities be affordable.

DoD acquisition reforms have provided its acquisition commands, such as STRICOM, with a new business process framework that helps them meet their mission requirements.<sup>2</sup> As acquisition commands adopt that new framework, they find that they must streamline their business processes. The best and quickest means to streamline internal business processes, as well as the business processes acquisition commands share with their agents<sup>3</sup> and trading partners, is to implement EC within an IDE.

STRICOM calls its overarching approach, *EC in STRIDE* (**EC in STRICOM's IDE**). The Command's EC in STRIDE vision is to have essentially all exchanges of acquisition, procurement, and life-cycle support-related information between STRICOM and its vendors and agents move towards using EC contemporary commercial practice.

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<sup>1</sup> EB/EC is defined here as (1) a government acquisition command's capability to communicate, as part of normal business processes, its requirements for goods and services to its private sector trading partners in digital electronic form encoded with mutually agreed-upon commercial standards, and (2) its trading partners' capabilities to communicate program cost, schedule, and performance information about those goods and services back to the government in a similar manner.

<sup>2</sup> That is, Integrated Product and Process Development and Integrated Product Teams as described in *Department of Defense Regulation 5000.2-R, Subject: Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs*, March 15, 1996.

<sup>3</sup> Its agents are the commands that administer contracts (the Defense Contract Management Command), audit the contracts (the Defense Contract Audit Agency), and perform finance and accounting (the Defense Finance and Accounting Service).

STRICOM's goal for *EC in STRIDE* is to implement its EC vision in concert with federal and DoD EC policy, initiatives, and programs *without* adversely affecting government or trading partner cost, schedule, or performance.

A useful way of looking at the relationship of conducting EC in an IDE is as follows: EC focuses on the process and information content of trading. It includes planning, determination of requirements, application of standards, integration of processes, and development and implementation of agreements to trade in an electronic marketplace. The IDE—whether a government capability or that of commercial trading partners—is the technical capability to effect EC. The IDE enables functional users to gather, analyze, communicate, and share information readily within a trading partner community.

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# 1.0 INTRODUCTION

This document describes how STRICOM, in concert with the Combined Arms Tactical Trainer (CATT) and Warfighters' Simulation (WARSIM) 2000 Programs, is planning to meet DoD<sup>1</sup> and Army requirements<sup>2</sup> to transition to digital operations by 2002. It specifically meets the requirement for all Army Acquisition Category (ACAT) I and II programs to develop and submit an integrated digital environment (IDE) transition plan.<sup>3</sup>

This plan is organized according to the topics specified in Paragraph 9.0, "Individual Program Transition Plans," of the *Army Plan to Transition the Acquisition Community to Digital Operations*, March 1, 1999 (final draft). As such, it does not specifically address other information technology (IT)-related areas that STRICOM is working on to ensure an appropriate, mission-critical approach to its IDE. These areas include

- ◆ disaster recovery planning,
- ◆ continuity of operations,
- ◆ life-cycle management of product data, and
- ◆ records management.

Finally, this plan focuses largely on the technology of an IDE. However, Army acquisition professionals actually perform the work to accomplish the STRICOM acquisition mission. The IDE fosters the professionals' ability to do their jobs better. Thus, STRICOM and its project management offices must and will give substantial attention to the cultural change aspects of implementing the IDE.

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<sup>1</sup> Deputy Secretary of Defense, July 2, 1997, *Policy for the Transition to a Digital Environment for Acquisition Programs*; Under Secretary of Defense for Acquisition and Technology, July 15, 1997, *Guidance for the Transition to a Digital Environment for Acquisition Programs*.

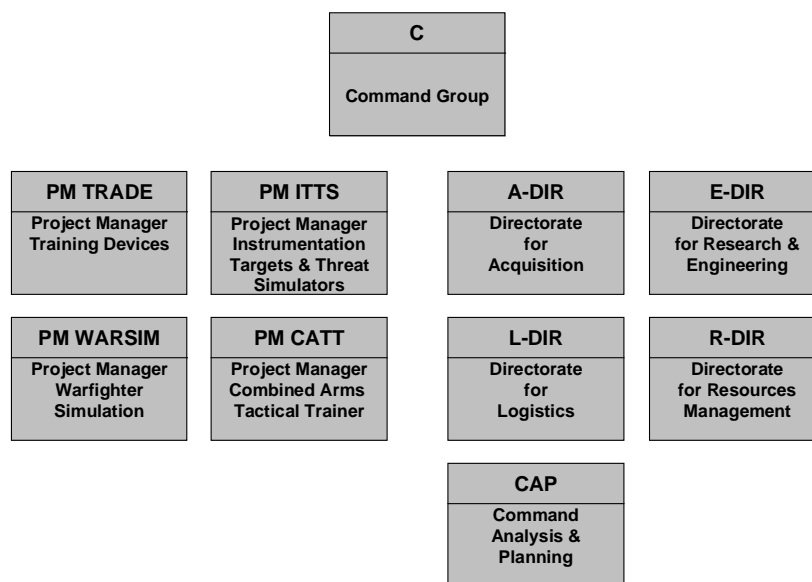
<sup>2</sup> Herbert K. Fallin, Jr., Director, Assessment and Evaluation, Office of the Assistant Secretary of the Army (Research, Development and Acquisition), Memorandum for Distribution, Subject: Transition to Digital Operations, November 6, 1998, p. 1. This Memorandum references LTG Paul J. Kern, (USA) Memorandum, October 6, 1997, as the requiring document for ACAT I and II program offices to transition to digital operations by 2002.

<sup>3</sup> Military Deputy to the Assistant Secretary of the Army (Research, Development and Acquisition) Integrated Product Team, "Paperless Office," *Transition to Digital Operations*, October 6, 1997.

## 1.1 STRICOM Organization

STRICOM provides common management and support services to its acquisition project management offices that are under its organizational umbrella. The command currently supports four program offices that specialize in the acquisition of training systems, simulators, and other advanced weapon system testing resources. See Figure 1-1.

*Figure 1-1. STRICOM Organization*



Two of four STRICOM acquisition programs (CCTT and WARSIM) are ACAT II. The two others, Instrumentation, Targets and Threat Simulators and Training Devices, are ACAT III.

While each project management office works independently on product development, STRICOM uses a matrix staffing approach to meet acquisition program resource, engineering and logistics support needs. The Chief of Staff provides centralized financial, cost analyses, electronic commerce (EC), and systems support to project offices.

## 1.2 Combined Arms Tactical Trainer/Close Combat Tactical Trainer Organization

The CATT project management office is responsible for acquisition of a group of interactive, networked, interoperable simulators designed to be expandable and to reflect total Army capabilities. The initial product acquired by the project is the Close Combat Tactical Trainer (CCTT). This fielded product focuses on training armor and mechanized infantry.

Day-to-day operations of CCTT are multifaceted. Some new product development (e.g., Aviation CATT-A) is in the pipeline. The staff also deals with pre-programmed product improvements to fielded products, customer-initiated engineering change requests, and configuration management of 10 CCTT fixed sites and 12 sets of mobile CCTT.

## 1.3 Warfighters' Simulation Organization

The Warfighters' Simulation 2000 project management office is responsible for acquisition of the Army's next generation battle simulation system. WARSIM will provide constructive training simulations for battalion and corps commanders and staffs in control of joint operations, tactical forces, combined arms forces, maneuver forces, combat support and combat service systems in operational and tactical environments. WARSIM also functions as the land warfare component for the Joint Simulation System program.

## 1.4 Technology Management

STRICOM's Chief Information Officer (CIO), the Electronic Commerce Project Director (ECPD), and the CCTT and WARSIM project managers (PMs) are jointly responsible for meeting the requirements imposed by DoD and the Army relating to the IDE initiative. The PMs are responsible for defining requirements and for ensuring solution implementation for their projects. The CIO is responsible for technology acquisition, operations and maintenance of network computing resources, and development and maintenance of computing applications. The ECPD is responsible for strategic business planning for EC within the Command, outreach to the trading partner community, and management of cultural change.

## 2.0 CURRENT STATUS

Using commercial standards as a benchmark, STRICOM and its CCTT and WARSIM project office operations are highly automated. The Command has made significant investments in networked computing resources. The staff use



workstations, integrated office automation tools, custom applications as well as the Internet to complete most activities. Appendix A contains the following diagrams that depict this “As Is” computing environment:

- ◆ Figure A-1. STRICOM Network Computing Infrastructure
- ◆ Figure A-2. STRICOM Research Park Connectivity
- ◆ Figure A-3. STRICOM Internet Connections.

The remainder of this section discusses these resources in detail.

## 2.1 Network Computing Infrastructure

STRICOM uses a local area network (LAN) for office computing support. The installed LAN is Internet Protocol (IP)-based. It incorporates switched Ethernet hub technology and is capable of delivering a full 10 Mb connection to every desktop.<sup>4</sup> A 100 Mb fiber optic backbone carries the network traffic between LAN segments. Other specialized servers host specific applications, databases, and gateways.

The standard workstation used at STRICOM is either a Pentium desktop PC or laptop equipped with a docking station. Most machines operate under Windows NT 4.0, a few under Windows 95. All machines are to be migrated to NT in FY00.

For general office automation, STRICOM uses the Microsoft Office 97 suite (i.e., Word, Excel, Power Point, and Access) and Microsoft Project. STRICOM also uses Lotus Notes for collaborative applications (e.g., Task Package Automation) and e-mail. Netscape is the standard Internet browser.

## 2.2 Research Park Connectivity

STRICOM connects to a metropolitan area network known locally as the Research Park Network (RPN). The goal of the RPN is to provide high-speed communications capability and interoperability among STRICOM, the Naval Air Warfare Center Training Systems Division (NAWCTSD), the University of Central Florida, and other commercial and government businesses located in the local geographical area. The RPN also connects to the Defense Simulation Internet, which provides connectivity for simulation exercises around the world.

The RPN is a TCP/IP-based network using Routing Information Protocol (RIP) in accordance with military standards MIL-STD 1777 and MIL-STD 1778. There are no active blocks to other protocols. An Alantec PowerHub, located in the

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<sup>4</sup> In Fiscal Year 2000 (FY00), all desktops will be supported by full 100 Mb connection.

STRICOM computer room and managed by STRICOM, is the central hub for the RPN. Each port on the RPN Alantec PowerHub can support a dedicated 10 Mb/s of bandwidth.

Local entities can connect via fiber optic cable for Ethernet speed. Remote entities can connect through whatever long distance telecommunications method best suits their needs. The only constraints are that the terminal-end equipment must be provided to bring the signal to a 10 Mb/s Attachment/Autonomous Unit Interface to Fiber Optic Inter Repeater Link (AUI/FOIRL) port on the PowerHub.

Long-haul lines are sized according to the expected load to ensure that STRICOM users have sufficient bandwidth to achieve a reasonable response time (not to exceed 10 seconds) from the remote system. Each site connecting to the RPN must provide a valid IP address. Each site is also responsible for providing security for, and access to, its systems.

## 2.3 Internet Connectivity

STRICOM hosts an Internet Web-site and permits staff to access external Web and file transfer protocol (FTP) sites. STRICOM connects also to the Defense Information Systems Agency (DISA) Non-classified Internet Protocol Router Network (NIPRNET) to enable secure access to other connected DoD sites as needed.

In addition to the Internet, several T-1 telephone lines have been installed point-to-point between STRICOM and selected sites (e.g., to its largest supplier, Lockheed Martin Information Systems). IP routers and firewall technologies control access to/from all external connections.

## 2.4 Close Combat Tactical Trainer Contractor Integrated Technical Information System

CCTT has de-emphasized the use of its Contractor Integrated Technical Information Service (CITIS) in favor of government-provided resources needed for routine workflow, product configuration, and document management. The CCTT Project Management Office recognizes that CITIS played an important role during initial development. They intend to use CITIS again for future product development as required.

In the absence of a vendor-maintained technical database, CCTT has outsourced document management to an engineering support contractor (Nations Bank, Inc.). This contractor provides periodic and on-demand distribution of updated technical manuals and other engineering data using CD-ROM technology.

CCTT is currently developing a site configuration database using Microsoft Access. The PM also intends to distribute these data to affected sites using CD-ROMs on a quarterly cycle.

## 2.5 WARSIM CITIS

The WARSIM Project Management Office considers CITIS capability provided by Lockheed Martin Information Systems (LMIS) to be a critical developmental resource. The CITIS is a set applications hosted on a UNIX platform at LMIS in Orlando, Florida. These applications provide automated support for managing software requirements, technical document preparation, computer-aided software engineering, and project management. Table 2-1 lists WARSIM applications within its CITIS.

*Table 2-1. WARSIM CITIS Applications*

Application	Description
DOORS	Commercial off-the-shelf (COTS) application for maintaining software requirements.
Exceed	COTS X-Terminal emulator. Used to run UNIX applications from a Win-95 workstation.
Ghost View	COTS Portable Document Format (PDF) viewer. Used to read documents posted to the LMIS file transfer protocol (FTP) site.
Interleaf	COTS desktop publishing application for producing product team documentation.
ISSUES Database	Custom database for recording open problems encountered by the development teams.
Schedule Publisher	COTS project management tool.
Software By Pictures	COTS Computer Aided Software Engineering Tool for developing software.

Authorized WARSIM staff can reach through STRICOM's network to access the CITIS. General access is user identification- and password-controlled. Furthermore, assigned directory access rights control access to information stored on a Y-drive. The Y-drive is a mapped drive at LMIS that contains contract data requirement list data products.

## 2.6 Internal STRICOM Applications

The CIO is responsible for application development. To improve STRICOM's ability to deliver high-quality applications, the CIO is seeking Capability Maturity Model level-two certification for both application development and for enterprise technology management. A comprehensive list of internal applications currently supported by the CIO is at Appendix B.

Appendix C lists other legacy applications. A CIO representative is responsible for installing desktop COTS applications, such as Exceed for UNIX X-Term emulation and AutoCAD for engineering drawings and government off-the-shelf (GOTS) packages (e.g., Heritage) as needed.

## 3.0 INTEGRATED DIGITAL ENVIRONMENT VISION

The STRICOM IDE will:

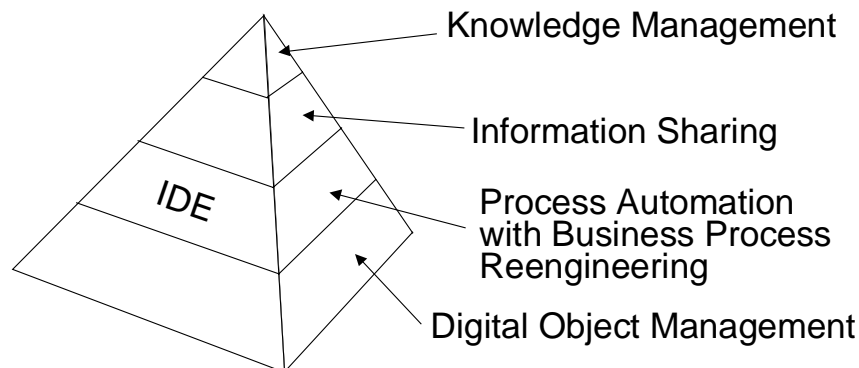
Establish a collaborative working environment for our acquisition community that enables simultaneous, controlled, electronic access for specified community members to contractually required or other documents, information, data and applications using mutually-agreed-upon commercial standards as part of normal business practices.<sup>5</sup>

While the envisioned IDE is expected to enable enterprisewide sharing of applications and technical data, the objective is to integrate electronic information into STRICOM's core business processes in order to improve overall mission effectiveness.

### 3.1 IDE Goals 2002

The Command's long-term goal is to move from the data/information management paradigm towards the use of integrated networked computing systems for enterprisewide knowledge management. The general pace and direction of technological advances indicate that such a level of technology integration will be a standard industry practice by 2002. Figure 3-1 illustrates the hierarchy of capabilities needed to meet this goal.

*Figure 3-1. Building Blocks of a Knowledge Management Hierarchy*



<sup>5</sup> [http://web1.stricom.army.mil/STRICOM/ELECTRONIC\\_COMMERCE/FILES/gco22499.pdf](http://web1.stricom.army.mil/STRICOM/ELECTRONIC_COMMERCE/FILES/gco22499.pdf), U.S. Army Simulation Training and Instrumentation Command, Government Concept of Operations (GCO) in an Integrated Digital Environment (IDE), February 23, 1999, p. G-2.

The IDE-related capabilities shown in Figure 3-1 are cumulative. Table 3-1 further describes these capabilities and provides an indication of the functionality provided at each stage of STRICOM's IDE development.

*Table 3-1. IDE Functional Areas*

Building block	Description
Digital object management	Allows users to create, store, use, and dispose of digital data objects. Data objects include forms, transactions, documents, messages, spreadsheets, data files, tables, drawings, images or video files.
Process automation with business process reengineering	Allows users to access specialized or generic applications to perform routine tasks or to control complex business processes. Reengineering should take place before process automation. Reengineered processes satisfy appropriate functional requirements and employ applicable technology.
Information sharing	Allows users to access or receive digital data objects created either locally or at remote sites without extensive knowledge about their stored location or generation.
Knowledge management	Allows users to use computing resources to synthesize and share their experience and insights concerning data, information and business processes performed within the organization.

STRICOM is currently in the nascent stages of building its envisioned IDE. Systems and standards are in place in order to generate digital data and to automate some core business processes. The future IDE planning focus will be on the acquisition of information-sharing technology needed to facilitate exchanges both within the Command and externally to targeted trading partners.

## 3.2 IDE Planning Principles

Applying DoD and Army guidance, the STRICOM CIO and ECPD have established planning principles for controlling their IDE development. Table 3-2 describes these principles.

*Table 3-2. IDE Planning Principles*

Principle	Description
Common technology	The Command will adopt common definitions, infrastructure, communications, applications and office automation tools to minimize technology-refreshment costs.
Data exchange	The focus of IDE development is on technical, program and business information exchange (i.e., data creation, access, interchange, and management).
Data security	The IDE will incorporate DoD security standards for controlling access to unclassified, sensitive, and secret information as required.

*Table 3-2. IDE Planning Principles (continued)*

Principle	Description
DoD standards	Proposed solutions will adhere to external requirements as defined by the Joint Technical Architecture-Army (JTA-A), Installation Information Infrastructure Architecture (I3A), and Defense Information Infrastructure Common Operating Environment (DII-COE). Proposed solutions will incorporate standard systems such as Joint Computer-aided Acquisition and Logistics Support System (JCALS) and Joint Engineering Data Management Information and Control System (JEDMICS).
Incremental implementation strategy	STRICOM will upgrade existing computing and telecommunications infrastructure over time to meet the increased performance requirements. The objective in planning an IDE is to establish an environment that can meet access and sharing requirements for the trading partner community over time.
Industry-proven approaches	STRICOM intends to automate further exchanges of acquisition and life-cycle support information in a way that conforms to contemporary industry and government practice for EC. Solutions must be based on proven industry and government practices and applied technology.
Reengineered business processes	The desired results will incorporate reengineered acquisition business processes optimized to take advantage of technology where appropriate.

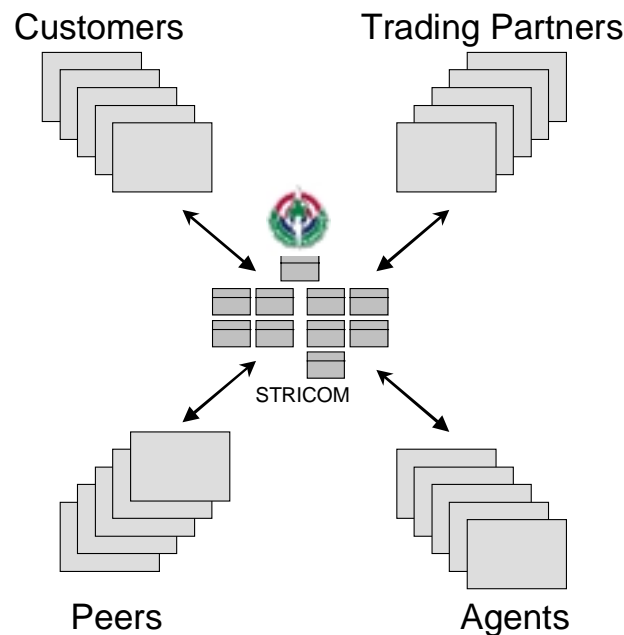
## 4.0 SCOPE OF THE IDE

The STRICOM IDE will encompass information and business processes for the whole life cycle of assigned Army and other systems. Information incorporated into the IDE will include product definition, product support requirements, program management and related business information (e.g., contracts, modifications, delivery orders, and invoices). IDE-supported business processes will cover requirements definition, systems engineering, contracting, project management, and logistics support.

### 4.1 Organizations and Interfaces

The IDE, whether STRICOM's capability or that of its partners in integrated product and process development, will be the technical capability to effect EC. The IDE will enable functional users to gather, analyze, communicate, and share information readily within the community. The IDE's functional users include customers, trading partners, peer organizations, and agents. Figure 4-1 illustrates the trading partner community.

*Figure 4-1. STRICOM Trading Partner Community*



Customers provide system requirements, acquisition resources, and guidance. These customers include the Army Acquisition Executive, program executive officers, other PMs, major commands (e.g., the U.S. Army Training and Doctrine Command [TRADOC]), and defense and federal agencies.

STRICOM's largest external trading partner is Lockheed Martin Information Systems in Orlando, Florida. However, trading partners also include other vendors and subcontractors to the prime such as, Science Applications International Corporation (SAIC). The trading partners provide the goods and services specified by CCTT and WARSIM project offices.

Peers include other Army commands such as the major subordinate commands (e.g., the U.S. Army Tank-Automotive Command). Peers share technical and other program information.

Agents are the commands that administer their contracts, Defense Contract Management Command (DCMC); audit the contracts, Defense Contract Audit Agency (DCAA); and perform finance and accounting, Defense Finance and Accounting Service (DFAS). Agents share contract administration, performance, and financial information.

## 4.2 Partnership Agreements

STRICOM has explored explicitly with its trading partner community requirements for agreements related to implementing EC and, thus, the implicit requirements for its IDE. STRICOM has determined that the administrative requirements and costs to negotiate, integrate, and maintain such agreements would be prohibitive.

Instead of many partnership agreements, STRICOM has taken three approaches to achieve the same result. First, STRICOM reaches out to its trading partner community through periodic open-forum workshops. Participants discuss and negotiate matters relating to conducting EC. Second, STRICOM conducts Advanced Planning Briefings to Industry. These APBIs keep industry at large informed of developments at STRICOM, such as IDE development. Third, STRICOM has documented its EC requirements in its *Government Concept of Operations (GCO) for Electronic Commerce (EC) in an Integrated Digital Environment (IDE)*. The Command attaches the GCO to each request for proposals that it issues. This document is also available on the STRICOM Web site.<sup>6</sup>

## 5.0 INFRASTRUCTURE

This section describes the infrastructure needed to ensure communitywide utility of the STRICOM IDE. Infrastructure is the hardware, software, and communications facilities needed to interconnect workstations and sites and to transmit and decode exchanged data. To access the IDE effectively, authorized individuals will need infrastructure in the following areas:

- ◆ Communications facilities to connect or transmit data among sites
- ◆ Data encoding tools to read/write data objects
- ◆ Applications to locate IDE-managed information.

### 5.1 Communications Facilities

The STRICOM IDE will encompass several geographically dispersed sites. Individual sites can contain data sources, users of information, or both. Common telecommunications facilities enable remote user connection and transmission of routed information between sites. Table 5-1 inventories the available and planned communications infrastructure.

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<sup>6</sup> [www.stricom.army.mil](http://www.stricom.army.mil).



*Table 5-1. Communication Infrastructure*

Communications facility	Description
Internet	Public Internet protocol routing network. Used by STRICOM to host Web and FTP sites and by staff to access external Internet-based information resources.
LAN	Local area network. This facility interconnects site workstations to one another and to network servers set up to host applications, databases, data storage, e-mail, and other communications gateways (e.g., the Internet).
Leased line	These are telecommunication facilities leased from a service provider such as AT&T. Lines (referred to as circuits) are typically dedicated, point-to-point and interconnect two networks or computer systems. STRICOM uses a point-to-point T-1 circuit between their headquarters building and LMIS to enable direct access to a CITIS facility for example.
NIPRNET	Non-classified Internet Protocol Router Network. This network is a military-only intranet based on IP routing technology.
VAN	Value added network. Private network used by STRICOM to send/receive EDI transactions through General Electric Information Services.
VPN	Virtual private network. This is an alternative communications technology to leased lines that can interconnect sites using native IP.
WAN	Wide area network technology extends the LAN to remote sites. It uses a combination of leased lines and IP routers.

Future IDE communications requirements will migrate away from leased line and WAN- and VAN-based facilities and towards increased use of the Internet and VPN technology for interconnecting IDE sites/users. STRICOM has not quantified its expected external IP communications growth or coordinated with the DISC4 Installation Information Infrastructure Architecture (I3A) project.

## 5.2 Data Encoding

Table 5-2 inventories the type of translators that will be part of the IDE. Each of these items will require an IDE reader/viewer, application, or format translator.

*Table 5-2. Data Translation Infrastructure*

Data category	Description
Application formats	Proprietary formats generated by standard desktop applications (e.g., Word and Excel).
HTML	Hypertext mark-up language. Standard for distributing text information over the internet.
Images	Proprietary formats for exchanging pictures or video images (e.g., Joint Photographic Expert Group [JPEG] and Tagged Image File Format [TIFF]).

*Table 5-2. Data Translation Infrastructure (continued)*

Data category	Description
PDF	Portable document format. Adobe (Acrobat) proprietary format. PDF is a de facto standard for exchanging text documents.
STEP	Standard to Exchange Product Model Data. An international standard used for exchange of many types of product data.
X.12	X.12 is a standard for generating Electronic Data Interchange (EDI) transaction sets defined by the American National Standards Institute (ANSI). Defines format of standardized digital business transactions.
XML	Extensible mark-up language. A standard used to tag data elements contained with a Hypertext Markup Language page. When used in conjunction with a universal or proprietary document type definition (DTD), this technology can be used to accomplish business transactions and direct database access.

In developing its IDE, STRICOM expects to make use of ANSI X.12 to exchange business transactions. Targeted EDI transactions include contractor performance reports, purchase orders, requests for proposals, contract modifications, invoices, payments, and bills of lading. As the trading partner community further adopts an IP-based communication infrastructure, it will shift more to XML to facilitate Web-based business data exchanges.

Document transmission-related infrastructure includes software for encryption (e.g., public key infrastructure [PKI]) and compression (e.g., WinZip). STRICOM will digitize other non-electronic source documents, such as engineering drawing aperture cards.

### 5.3 Information Access

A fundamental issue of overall IDE effectiveness is how it will enable users to locate needed information. Table 5-3 inventories the kinds of software infrastructure that STRICOM will need to index to enable user searches.

As the IDE develops, STRICOM will emphasize integrating the JCALS Document Library, GDMS, and legacy API technology. As the Command shifts to IP-based technologies, it will emphasize integrating search engines more.

*Table 5-3. Information Access Infrastructure*

Search capability	Description
API	Application Program Interface. Used to initiate canned information retrieval requests from proprietary databases. This category of infrastructure is needed at legacy sites to respond to requests for access.
Document library	Provides an indexed storage of available documents on a document server.
GDMS	Global Data Management System. Keeps track of data from various sites.
Search engines	Typically Web-based products that enable users to initiate unstructured key-word searches for document-based information.

## 6.0 SYSTEM SOLUTION

Implementation of the STRICOM IDE is subject to resource availability, modernized computing technology, trading partner capabilities, staff experience and training. Initial IDE-related acquisitions will focus on improving technical data exchanges with the principal trading partners. The longer term acquisition strategy is to acquire technology for product data and document and process management consistent with emerging DoD standards and private industry practices. In all cases, specific product selections will be compatible with the existing computing base and consistent with the IDE planning principals as defined in Section 3.0.

This approach will result in an IDE that is based on multiple technologies rather than a single product or packaged set of capabilities. JCALS, for example, will be used for legacy system data access (e.g., Joint Engineering Data Management and Control System [JEDMICS]) and external workflow management applications. Lotus Notes Domino will be the technology for some internal workflow applications, while the World Wide Web (WWW) will play a major role fulfilling requirements for information dissemination.

### 6.1 IDE Functional Requirements

The STRICOM IDE will evolve around four main functional areas:

- ◆ digital object management,
- ◆ process automation,
- ◆ information sharing, and
- ◆ knowledge management.

For reference, these functional areas are defined in Section 3.1. The CIO has already implemented these functions to varying degrees as part of STRICOM's existing network computing infrastructure. For future development purposes, each identified area will be subject to requirements defined by their respective functional constituencies.

## DIGITAL OBJECT MANAGEMENT

Digital object management includes requirement definition, acquisition, creation, storage, sharing, maintenance, use and disposal. It also encompasses the traditional disciplines of data management, configuration management, and records management. STRICOM currently uses its network and desktop resources to meet the digital object management needs of the project management staff. Office automation tools and other desktop installed COTS products (i.e., Microsoft Office Suite, Lotus Notes, and AutoCAD) primarily handle these functions. The Command is currently considering adding standardized calendar, schedule, and project management capabilities in coordination with its trading partners.

A more significant data management upgrade for IDE purposes will be to add an automated Product Data Management System (PDMS) or Document Management System (DMS). Since there is considerable functional overlap between these two product types (both, for example, can be used manage multiple data object types and provide for configuration management over data content) only one standard product is expected to be acquired. STRICOM is examining the role JCALS can play in STRICOM's digital object management.

## PROCESS AUTOMATION

STRICOM staff use custom applications to perform several routine tasks today. These applications represent a combination of transaction, database management system (DBMS), and process management-oriented system designs.

Future IDE development focus on building process management-type applications. The CIO is currently implementing several internal process control applications using available technologies within Lotus Notes. The workflow management component of JCALS will provide some essential capability in this area, as will the process management functionality typically found in the selected PDMS or DMS packages.

The project management office also is developing some DBMS capabilities (e.g., CCTT site management application). The planned IDE will integrate all legacy transaction-based applications processes and newer DBMS applications.

## INFORMATION SHARING

Technologies to access local server-based data sources and external applications define STRICOM's current information-sharing capability. The CIO has installed

an internal LAN to support data resource sharing locally. The office connects to NIPRNET and a commercial Internet service provider for e-mail, applications, and Web access.

For immediate IDE development purposes, STRICOM expects to focus on enhancing external data access capabilities. Planned information-sharing technology additions include Internet Web, Enterprise-Community Integrated Technical Information Service (E-CITIS) and JCALS. The E-CITIS and JCALS initiatives will provide a secure set of capabilities for accessing LMIS, other DoD legacy data sites, coordinating workflow between sites, and for organizing/controlling access to program data objects used across the community.

## KNOWLEDGE MANAGEMENT

The existing computing environment at STRICOM is data-centric. The next step is to provide a more process-centric environment. The IDE's evolution, however, will be towards intellect sharing and decision support (i.e., Knowledge Management).

Knowledge management is the systematic approach to find, understand, share, and use knowledge to create value. It encompasses the application of management strategies, methods, and technologies for leveraging intellectual capital, experience of staff into organizational gains in human performance and competitiveness. Knowledge Management thereby helps information and knowledge flow to the right people at the right time so they can work efficiently—and effectively.

The planned IDE will ultimately provide a knowledge management capability on a community-wide basis. Sample commercial products that will support this transition include Dataware or Knowledgeware.

## 6.2 IDE Relationship to Army Materiel Command Information System Architecture/Common Operating Environment

The Army Materiel Command (AMC) Common Operating Environment (COE) supports the AMC communication's migration to the AMC Information System Architecture (ISA) and defines the information environment in which AMC operates. As AMC prepares for the demands of the 21st century, it must move toward and maintain an integrated and seamless enterprise information system that will maximize the use of technology to support the Army and enable AMC to continue to accomplish its mission in a resource-constrained environment.

The purpose of the AMC COE is to focus IT investments into the similar technologies, operating systems, and software. This focus on common technologies helps ensure communications between AMC systems and reduces the total cost of ownership since AMC will not need to provide and support multiple systems and software packages.

A team of technical representatives will review the STRICOM IT Infrastructure this year to make recommendations on resources required to migrate STRICOM to the recommended AMC COE. The migration will be gradual. Currently, the new CIO is reviewing the Draft AMC ISA and COE for AMC.

The Command is also aware of potential computing infrastructure requirements defined by the Joint Technical Architecture–Army and DISA’s DII/COE programs. STRICOM staff will continue to follow the evolution of these external programs and implement requirements relating to the IDE in a manner consistent with the planning principals defined in Section 3.2.

### 6.3 IDE-Related Pilots

The Electronic Commerce Project Director, working in cooperation with the Acquisition Directorate, CCTT, LMIS, and the CIO, is implementing a JCALS-Based E-CITIS pilot program. JCALS is being evaluated as a technology for enabling access to DoD legacy data sites, workflow, document management, and access security.

The pilot objective is to install JCALS at STRICOM and to implement workflow management applications to support the automated delivery and review of several standard contractor submissions (e.g., the periodic contract status report). In addition to evaluating JCALS functionality, the CIO is testing JCALS impact on existing network and other computing resources.

## 7.0 INFORMATION SECURITY

The IDE will be designed to meet requirements for C-2-level access (i.e., it can host sensitive but unclassified [SBU] information). The project management office intends to process classified data outside the IDE, using appropriate protocols. To protect STRICOM data from unauthorized access or malicious acts, STRICOM will follow Information System Security requirements for its IDE and EC transactions. Specifically:

- ◆ STRICOM will participate in DoD’s Public Key Infrastructure to provide appropriate information assurance for its IDE.<sup>7</sup>
- ◆ The IDE will not circumvent existing perimeter defense measures and will not enable “back doors” to the STRICOM LAN. All IDE transactions will pass through the Army Security Router and be monitored by the Intrusion

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<sup>7</sup> Specifically, the STRICOM will comply with the policies and procedures in Deputy Secretary of Defense Memorandum to the Service Secretaries et al, Subject Department of Defense (DoD) Public Key Infrastructure (PKI), May 5, 1999; and Department of Defense, *Public Key Infrastructure Roadmap for the Department of Defense, Version 2.0, Revision C*, June 24, 1999.

Detection System. STRICOM will use a common infrastructure rather than separate dedicated circuits between sites.

- ◆ The IDE will not compromise the protection afforded by firewall technology to the STRICOM LAN.
- ◆ All documents transmitted within the IDE will be free of computer viruses, e.g., Trojan horses or other forms of malicious logic. Virus-scanning technology will automatically scan memory, master boot records, boot records, and files for viruses before transmission through the IDE.
- ◆ The IDE will provide access to authorized users only.

CCTT/WARSIM product development processes currently require only the exchange of unclassified and sensitive but unclassified (SBU) information. The WARSIM's Intelligence Module has classified components. The WARSIM staff will manage those components outside the IDE using conventional approaches to handling classified material.

## 8.0 LEGACY SYSTEMS AND DATA

STRICOM staff accesses several legacy data sites operated throughout DoD. A comprehensive list of external applications can be found in Appendix B. Key sites operational sites used by the CCTT and WARSIM include AIM, JEDMICS and ECARDS.

## 9.0 RESOURCES

The STRICOM's resource utilization approach to achieving its EC goal is to

- ◆ use a comprehensive, coherent approach in realizing its goal (see the Prologue);
- ◆ reach out to STRICOM agents and trading partners and their vendors to ensure that, as a community, each partner exploits appropriate opportunities; and
- ◆ work with standards consortia and trade associations to ensure that commercial standards reflect STRICOM's requirements and those of its trading partners.

## 9.1 Resource Drivers

Analysis of STRICOM's EC goal and IDE Vision show that resource requirement drivers are

- ◆ outreach to agents, current and potential trading partners, standards consortia, and trade associations;
- ◆ information technology (IT) modernization; and
- ◆ cultural change management.

STRICOM's outreach initiatives (e.g., 21<sup>st</sup> Century Electronic Commerce Workshops and Web presence) have proven to be a modest cost, effective means to ensure open communication between STRICOM and its industry trading partners. STRICOM also participates on an ad hoc basis in standards consortia work and at trade association conferences. STRICOM has budgeted resources to continue this outreach effort into the near future.

STRICOM is pursuing IT desktop and network modernization in accordance with Army policy. However, planned IT resources do not adequately cover resources for IDE and EC capability development.

STRICOM's process for culture change management is to apply the principles of integrated product and process development (IPPD) and work through changes with appropriate integrated product teams. To date, STRICOM has worked with its largest trading partner, LMIS, on three IDE-related pilot projects: paperless contracting, contractor performance reporting, and E-CITIS. So far, STRICOM has used available outreach and IT modernization resources to pay for the pilot projects.

## 9.2 Programming Required Resources

As STRICOM and its trading partners move from pilot projects to community-wide IDE implementation, additional resources will be required. The CIO has identified the following computing infrastructure items as shown in Table 9-1.

*Table 9-1. Required Computing Infrastructure Resources*

Budget year category	2000 (\$)	2001 (\$)	2002 (\$)
IT modernization:			
Desktop upgrades (for JCALS)	150,000	150,000	150,000
CAT 5 cabling (for JCALS)	100,000		
SUN/Oracle server	75,000		
Maintenance and support		50,000	50,000
BPR, outreach, and cultural change	300,000	350,000	50,000
Project management (support)	400,000	400,000	400,000



Other funding is necessary to cover IDE systems integration, BPR, staff development, as well as community reachout, infrastructure modernization, and change management. Added IT development resources are also needed to offset the 20 percent reduction in staff that the Command is experiencing.

These funding requirements are an investment and should be financed from reduced staff costs in the year in which the staff cuts occur. STRICOM is currently planning IDE program submission requirements for FY00 through FY02.

### 9.3 Contingency Plans

STRICOM has no plans to accommodate IDE plan changes should the Army reduce or not provide required resources. However, to the extent that IDE requirements are mandatory, STRICOM and the acquisition projects may be forced to trade off acquisition of capabilities for warfighters to implement the IDE.

### 9.4 Working with Other IDEs

STRICOM's outreach program is key to its efforts to integrate its IDE with other IDEs. Where feasible, STRICOM and its trading partners are working on common solutions. For example, STRICOM and LMIS are implementing JCALS as a common IDE backbone for its E-CITIS solution.

Prime vendors achieve efficiencies in their internal operations so they can stay competitive in a global market. A need to be internally efficient also drives their need to have an as common as possible interface with customers. Thus, prime vendors are more or less willing to embrace common IDE solutions. However, STRICOM notes that IDE solutions that span across prime vendors to their sub-contractors are not currently in development.

While STRICOM has invited all its trading partners and agents to participate in its outreach efforts, not all seem ready to commit to a common solution—or any solution. The agents are a case in point. DCMC and DFAS have their own inaccessible approach to their “IDEs.” DCAA does not seem to be a player in the IDE environment.

### 9.5 Continuing Modernization and Upgrade

STRICOM plans to acquire resources for continuing modernization, and upgrade of its IDE, as part of its normal programming and budgeting for IT modernization.

## 10.0 CONSTRAINTS

This section lists constraints identified by STRICOM, CCTT, and WARSIM staff. The constraints listed can affect the IDE implementation schedule and its overall effectiveness of STRICOM or its project management offices abilities to work

with peers and other DoD organizations. While Section 9.0 cites resource limitations that are a great challenge, other significant constraints include the following:

- ◆ *Technical capability and willingness of peer Army organizations to share program-related information.* STRICOM staff believe it is easier to get information from their commercial trading partners than from Major Commands and other Major Subordinate Commands. The Army suffers from a culture of information hoarding rather than one of information sharing.
- ◆ *BPR forced by substantial staffing cuts.* The Army plans a 20 percent staff cut for STRICOM by FY 2000. Plans for these cuts do not include any guidance, or resources, for reengineering or investment. In addition, an IDE implementation will force restructuring of many parts of the Command. Many middle manager positions will become unnecessary. Retained individual worker's jobs will become larger, with increased responsibility and need for action that is more autonomous. The government job classification system and pay structure will need to evolve to compensate for such restructuring.
- ◆ *A universal DoD IDE is not achievable.* While STRICOM can work towards implementing its own proprietary IDE, more universal data sharing depends on integration of external digital environments operated by DoD customers, trading partners, peers, and agents. For example, STRICOM, DCMC and DFAS all manage contracts digitally, but each manages its part of the contract folder in separate, incompatible ways.
- ◆ *Defense production takes place in a distributed network of prime vendors supported by multiple tiers of subcontractors.* STRICOM and its prime vendors will implement a networked IDE. However, incompatible technologies or lack of resources will mean that many subcontractors cannot be part of the IDE.
- ◆ *Security concerns.* Contractors are reluctant to release corporate financial data (e.g., SBU information) into a network environment to which their competitors may have inappropriate access.
- ◆ *Product availability.* Only a limited number of software products are available that are effective across the range of targeted IDE functionality and that are also universal enough to be selected as part of the DoD and STRICOM common operating environments.
- ◆ *Vendor participation.* Large contractors have the infrastructure to send and receive secure data over the envisioned IDE. Smaller contractors will need technical assistance in this area.

## 11.0 SCHEDULE

STRICOM is currently developing capabilities to implement EC, E-CITIS, and other technical data exchange technologies (e.g., Internet and JCALS). The objective is to establish an effective IDE by 2002.

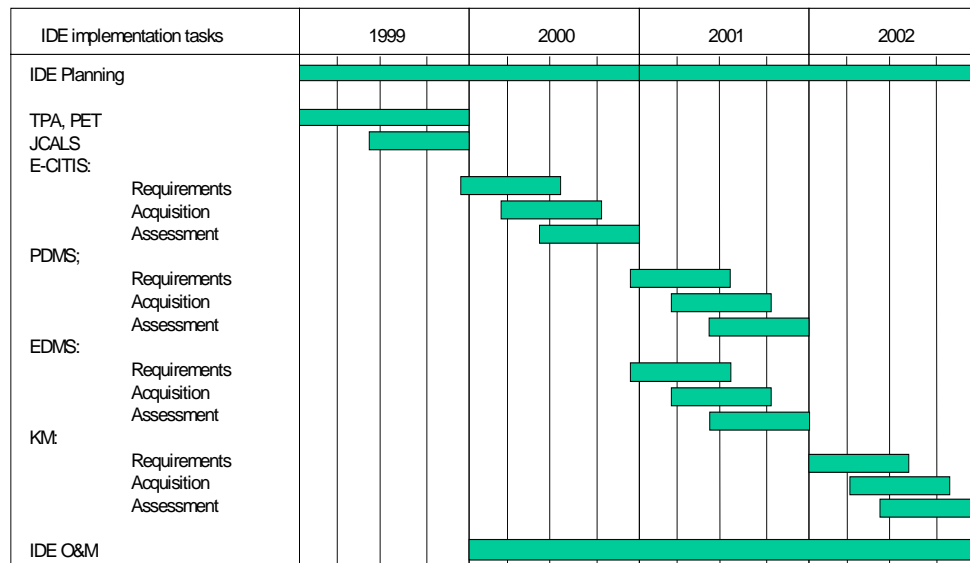
STRICOM expects to build its IDE incrementally through the installation of a series of planned software and hardware component upgrades to its existing network computing environment. The resulting environment will fully support digital operations at the project office level. Table 11-1 lists planned and potential IDE components.

*Table 11-1. Planned and Potential IDE Components*

Component	Functional area	Description	Full operational capability (date)
GCO	Data management	Government Concept of Operations	12/31/98
PET	Process automation	Proposal Evaluation Tool	12/31/99
TPA	Process automation	Task Package Automation	12/31/99
JCALs	Information sharing	Joint Computer-Aided Acquisition and Logistics System	03/31/00
E-CITIS	Information sharing	Enterprise Community integrated Technical Information Service	12/31/00
EDMS/ PDMS	Data management	Electronic Document Management System/Product Data Management System	12/31/01
Dataware	Knowledge management	Example only of software designed to support knowledge management	12/31/02

An integrated product team (IPT) will manage the IDE initiative. Each component will also be subject to separate IPT review processes over their respective planning, requirements, capabilities acquisition, and assessment phases. Figure 11-1 depicts a nominal schedule for STRICOM's IDE development.

Figure 11-1. Nominal IDE Development Schedule



## 12.0 FUTURE GROWTH

The STRICOM CIO is responsible for programming, budgeting, acquiring and supporting STRICOM's network computing, applications and associated IDE resources. The STRICOM ECPD is responsible for outreach to STRICOM's trading partner community, EC and IDE change management, and essential EC- and IDE-related applications (e.g., TPA and JCALS).

CCTT and WARSIM project management offices work closely with the CIO and ECPD to define IDE requirements and to provide their appropriate share of funding to support EC and the IDE. Thus, as requirements develop, the CCTT and WARSIM project managers, CIO and ECPD will work together to "grow" the IDE and ensure its continuing effective support of the STRICOM, CCTT and WARSIM acquisition mission.

## 13.0 DESIRED ACTIONS

STRICOM staff believe that DoD and Army should provide the following actions or guidance to facilitate efforts to meet the goals of this plan within available, or expected, funding:

*A true IDE requires a coordinated, enterprise-wide effort.* As a major subordinate command, STRICOM is not in a position to effect changes in the wide range of legacy and new applications and business processes of its customers, agents

and peers. The Association for Enterprise Integration (formerly the CALS Industry Steering Group) is the logical, government-industry forum to work on a coordinated approach.

*Expediting development of commercial standards that facilitate IDE enterprise capabilities.* For example, standards that enable workflow tasks to move across organization boundaries and among workflow management applications would enable fully enterprise process automation. The Workflow Management Coalition is developing such a standard. Another example is a standard that would enable interoperability of different product data management systems. Such interoperability is essential to sharing information within an enterprise. The STEP community is working on an application protocol to meet this requirement.

*Modernizing JCALS so that its search engine is or mimics powerful, comprehensive search services freely available on the World Wide Web (WWW).* Currently, the JCALS search tool, the Global Data Management System (GDMS), works only with pre-registered index data (i.e., metadata) in its own database. GDMS can find only information it already knows about. On the other hand, Web search services provide access to the universe of information on the Internet. IPTs members need a Web search approach to access the broad range of information required to support IPPD.

## 14.0 POINTS OF CONTACT

Table 14-1 lists the points of contact for this plan.

*Table 14-1. Points of Contact*

Position	Name	Phone	E-mail
Facilities Engineer CCTT	Dave Meyers	(407) 384-3617	Meyersd@stricom.army.mil
Project Manager WARSIM	Stan Goodman	(407) 384-3652	Goodmans@stricom.army.mil
STRICOM Chief Information Officer	Jim McBrayer	(407) 384-5325	Mcbrajej@stricom.army.mil
STRICOM Electronic Commerce Project Director	Donna Felix	(407) 384-3799	Felixd@stricom.army.mil

# Appendix A

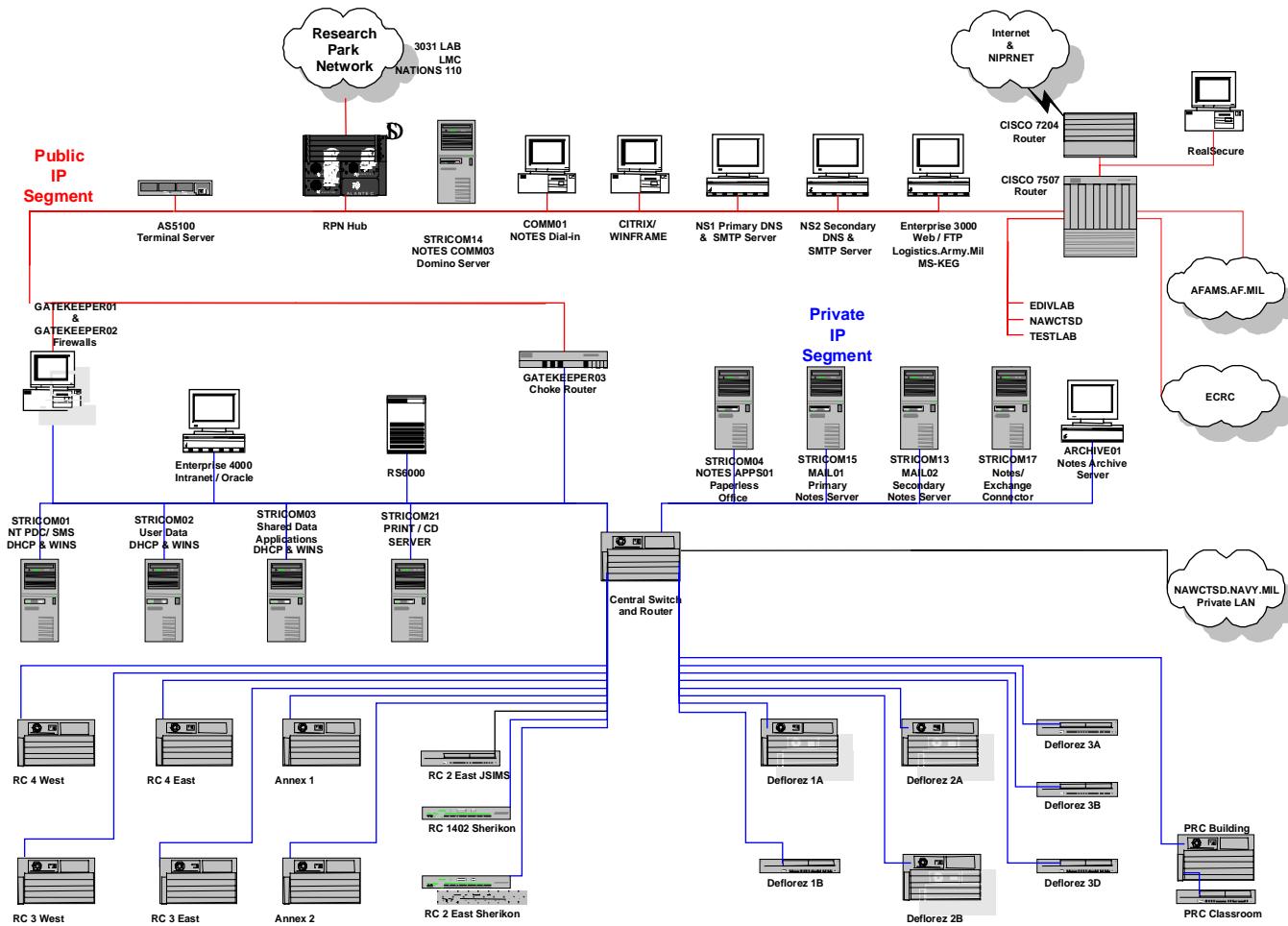
## STRICOM Computing Infrastructure

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This appendix contains the following three network diagrams.

- ◆ Figure A-1. STRICOM Network Computing Infrastructure
- ◆ Figure A-2. STRICOM Research Park Connectivity
- ◆ Figure A-3. STRICOM Internet Connections

Figure A-1. STRICOM Network Computing Infrastructure



*Figure A-2. STRICOM Research Park Connectivity*

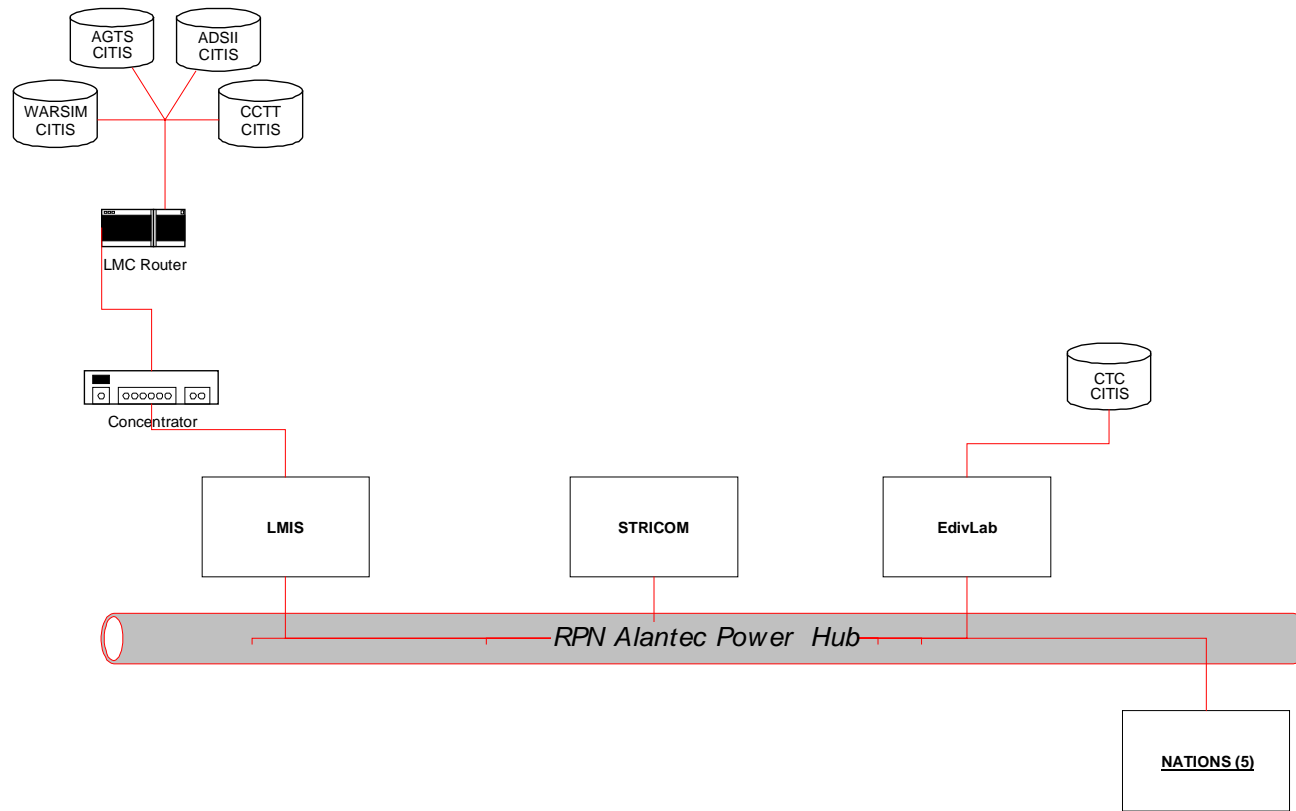
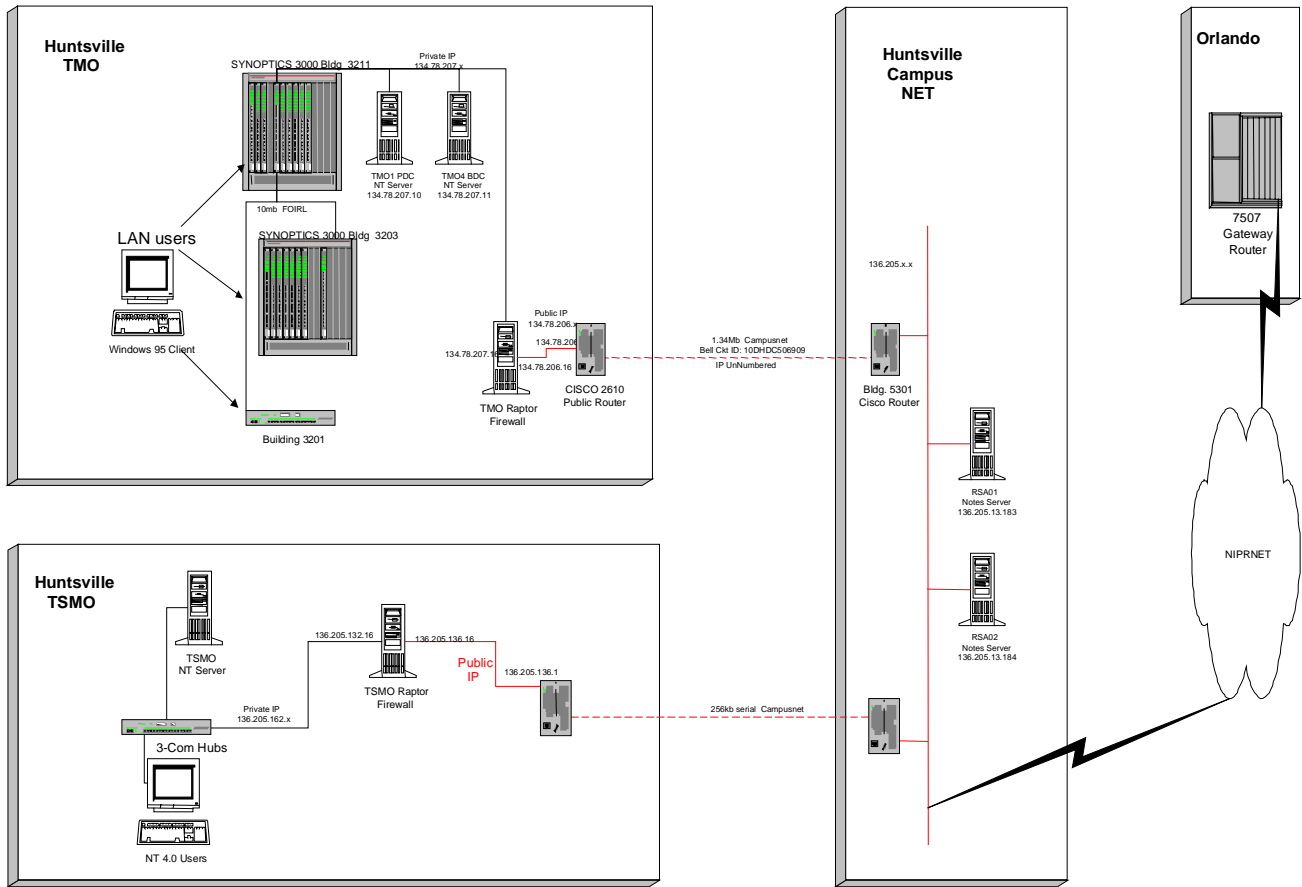




Figure A-3. STRICOM Internet Connections



## Appendix B

# Internal STRICOM Applications

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System	Description
1610 Travel System	An automation of the 1610 Travel Request. Involves work flow processes and collaboration via Lotus Notes.
AGREEMENTS DATABASE	Used to display STRICOM customer MOAs, MOUs, ISSAs, BSAs, and charts (both internal and external).
DA PAM 350-9	Provides access to information pertaining to Army fielded devices.
DOCATS	Document Cataloging System. Serves as a centralized repository for cataloging technical documentation pertaining to STRICOM projects. Initiated by PMCAT, this repository of recorded documents relates to the development of CCTT and other programs.
LOGARMS	Logistics Army Management System. Tracks STRICOM training devices, provides availability, downtime, and location of training devices. Also provides information for managers to monitor the performance of CLS contract in support of STRICOM missions.
LRPS	Long Range Planning For Simulation. Provides information related to testing and evaluation of STRICOM devices. Modeling and Simulation data are being added. This system can provide input into new training requirements.
LSS	Logistic Support System. The Logistic Support System will assist the user in monitoring status of parts maintained for training devices for which STRICOM is responsible. The system controls the stock level, procurement of replacement stock, issuing of parts, and performs other maintenance and inventory functions.
MILPERSO Database	Tracks STRICOM civilian and military basic personnel information. The Personnel Database Management System (PDMS) is to replace this legacy system. This is an Informix database.
New Work Brief/Command Acceptance Tool	Provides a means for entering project data in an automated format.
PARTS	The PARTS system allows the Logistic Directorate to monitor the status of parts supply required by STRICOM. (This is an Oracle database with a Power Builder Interface.)
PDMS	Personnel Database Management System. Tracks employee information. Replaces the MILPERSO database.
People-Project Locator	Provides information pertaining to the STRICOM workforce and its projects. This application is available via the STRICOM web. This is an Oracle database with a Live Wire interface.

System	Description
PMPR	Project management Manager's Project management Reports. All projects under the direction of project managers and directorates must go through periodic project review. Project reviews are quarterly. PMPR tools replaces the methods previously utilized to prepare and present those project reviews, previously referred to as the Project Quarterly Reviews. The purpose for these reviews is to periodically update product managers and project managers on the status of project management under their review.
Print Log Database	This database application enables users to create, view, or print log print requests. The Navy uses this request when STRICOM employees submit documents to the print shop.
REDBOOK	Provides on-line ordering and access to status information pertaining to logistic support of STRICOM trainers.
RSS	Requisition Support System. It allows STRICOM users to monitor the status of supply requisitions issued by the Command. It allows creation, tracking, and disposition for requisitions issued on DD forms 1348-6. Information from this database can be linked to other logistics databases via part numbers. The Requisition Support System is a menu-driven database system developed using Informix.
SAT	Security Assistance Tool. This is a financial management database.
SPARES	Spare Parts Production & Procurement Support. It allows STRICOM users to store and retrieve data relevant to the procurement activities in support of STRICOM data processing needs. Its purpose is to log requests for procurement actions and to manage the status of such actions through the receipt and issue of hardware/or software.
SSSC	STRICOM Software Summary Catalog. Catalogs and summaries software products by PM, directorate, or type of product. Available off the STRICOM web site.
STRIAM	STRICOM Acquisition Manual. STRIAM is the vehicle for implementation of the STRICOM strategic plan and for implementation of acquisition reform. The STRIAM presents a series of events and related products. It directs users to detailed guidance and available tools.
STS	Suspense Tracking System. Designed to track Command suspenses. Expanded to various PM and directorate shops. Engineers work flow processing using Lotus Notes.
TPA	Task Package Automation. It is an automated system for tracking and processing task packages throughout the Command (Notes Domino workflow technology-based).
Transportation Database System	Enables users to monitor the status of repair orders issued by STRICOM. It is a menu-driven system developed in Informix residing on the IBM RS-6000/580 computer.

## Appendix C

### External Legacy Applications

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System	Description
AACMIS	Army Acquisition Career Management Information System.
AAPERS	Army Acquisition Project Management Executive Review System.
ACCS	Automated information Control System. The Engineering Directorate uses the system for Configuration Management.
AIM	Automated Information Management. Provides status and overview of STRICOM project management.
ARBUCS	Army RDA Budget Update Computer System.
ASIP	Army Stationing Installation Plan. An Army system that reports Human Resources Table of Distribution and Allowances data.
ATAAPS	Automated Time and Attendance Planning System. A DoD system mandated by DFAS. Provides timekeeping for the Command.
CARS	Consolidated Acquisition Reporting System.
CITIS	Contractor Integrated Technical Information Service. Provides a framework for implementing Information exchange between government and industry. Unique to each project management requirement. CITIS instantiations exist for the following projects: WARSIM 2000, PMWARSIM, CCTT BOTANY BAY, PMCATT, ADST I, PMCATT, ADST II, PMCTT, AGTS, and PMTRADE.
CPARS	Contractor Performance and Review System, a DoD-mandated system.
CPRS	Command Performance Review System. A tool of Army Materiel Command (AMC).
DAMES	Defense Automated Message Execution System. A DoD requisition system used by the Logistics Directorate.
DPAS	Defense Property and Accounting System. The Property Book System automates the record-keeping function associated with maintaining the organization property accounting records. It also accurately tracks all property from the time it arrives in the organization until it leaves. Additionally, it accounts for plant property as well as other equipment by type of equipment, tool number, and serial number. Data input is the responsibility of the LS Branch.
DSAMS	Defense System Assistance Management System. This tracks Foreign Military Sales cases.
DTS	DA's Defense Travel System. This system will be used to process and track travel requests.
ECARDS	This provides electronic access to engineering drawings at TACOM in support of STRICOM project management (General Dynamics–Contractor).
EGLS	A government credit card system maintained by Nations Bank.

System	Description
JEDMICS	Joint Engineering Data Management Information and Control System. An electronic technical data repository (DoD Legacy system). STRICOM users connect to the NAWCTSD's JEDMICS system. STRICOM data are loaded into this system.
MOCAS	Mechanization of Contract Administration Services. A Defense Contract Management Command System. Tracks financial and contractual disbursements. The Acquisition Directorate is the proponent.
PARSS	DFAS uses this system to reconcile contract data maintained in the SOMARDS and MOCAS systems.
PCMS	Purchase Card Management System. This system tracks government credit card purchases. STRICOM has submitted a waiver to AMC to be exempt from using this system.
PPI	Personnel Performance Improvement System. This supports the CPOC or HRO regionalization effort. It enables on-line personnel transactions to occur.
PRT	Project Management Reporting Tool.
SIDPERS	Standard Installation/Division Personnel System. This system tracks personnel information on military personnel and processes personnel transactions.
SOMARDS	Standard Operations & Maintenance Army Research & Development System. The Command uses the system for financial management transaction tracking.
SPS	Standard Procurement System (in development). When deployed, the system will author and track government procurements. This system will reside on a NAWCTSD server.
WEAMS	Web Enhanced Acquisition Management System. AMC developed this tool for reviewing STRICOM project management cost, performance, schedule, technical evaluations, and logistics.